

Annex VII
To the Agreement Between the Department of Energy
of the United States of America
and the Ministry of Energy and Infrastructure
of Israel in Energy Research and Development
Techno-Economic Evaluation of Algal Biomass
Energy Production and Conversion Systems

WHEREAS, the Department of Energy of the United States of America (hereinafter referred to as "DOE") and the Ministry of Energy and Infrastructure of Israel (hereinafter referred to as "MOEI") have entered into an Agreement in Energy Research and Development signed in Jerusalem, on June 3, 1984;

WHEREAS, DOE and MOEI (hereinafter referred to as the "Parties") recognize that it would be beneficial to both countries to work on a project in Techno-Economic Evaluation of Algal Biomass Energy Production and Conversion Systems (hereinafter referred to as "the Project");

WHEREAS, the Parties further recognize that the Project is of mutual interest to both countries;

Therefore, the Parties agree as follows:

ARTICLE 1

Scope

The objectives of this research are to:

- Evaluate the state of the art of microalgal-biomass production
- Compare advanced algal biomass systems with high yield and high capital investment to other conventional algal biomass systems with low yield and low capital investment.
- Compare alternative energy products of various systems.
- Identify critical research needs in the field of algal biomass energy production and conversion systems.

The activities of this annex shall be carried out under five tasks:

- Task 1. MOEI shall accumulate technical and economic information resulting from the Israeli experience with microalgae production technologies.
- Task 2. DOE shall provide to MOEI a draft techno-economic

analysis entitled "Fuels from Microalgae: Technology Status, Potential and Research Issues". This includes but is not limited to assumptions relative to productivity, growth factors (nutrients, etc.), pond construction and operation, harvesting, and processing (extraction of desired product).

Task 3. MOEI shall present the DOE analysis referred to in Task 2 to the Israeli industries involved in algae production in order to receive their critical evaluation. MOEI shall provide to DOE technical comments on the analysis, with references where appropriate, the critical evaluations of Israeli industries, and the information accumulated in Task 1. Simultaneously DOE shall present the DOE analysis referred to in Task 2 to U.S. industries for evaluation. DOE may alter the document as a result of MOEI technical comments and appropriate references, and the evaluations of Israeli and U.S. industry.

Task 4. At or about the same time of Task 3 activities, DOE shall send a technical field manager from the U.S. to visit microalgae sites in Israel and to have in-depth discussions with Israeli technical experts arranged by MOEI.

Task 5. MOEI and DOE should develop a proposal for a workshop to discuss the research implications in the field of algae biomass and energy production and conversion systems, using the techno-economic analysis as the central focus. The participants in the workshop should include the key researchers, representatives of appropriate government agencies of Israel and the United States as agreed by DOE and MOEI, and representatives of industry in accordance with the U.S. Federal Advisory Committee Act.

ARTICLE 2

Management

Each Party shall appoint a Project Leader for the management of the Project. The Project Leaders shall be responsible to their respective Project Coordinators (appointed pursuant to Article 3.3 of the Agreement dated June 3, 1984) for the working contacts between the Parties.

ARTICLE 3

Funding

1. The total cost estimated for this Project is \$25,000 (U.S. dollars). This cost covers the activities described in

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Article 1. Any other activities involving additional costs may be added by mutual written consent of the Parties.

2. The cost of meetings shall be borne by the Party that incurs them, and the costs of visits shall be borne by the Party sending the personnel, both in accordance with the normal procedures of each Party.

3. DOE funds provided for the Project that are to be expended in Israel shall be deposited with an authorized depository of MOEI.

4. The Parties shall maintain appropriate financial records of this Project and clearly account for all funds expended on this Project, including funds transferred from one Party to the other pursuant to paragraph 3 above. Either Party receiving funds from the other shall, within 3 months following the end of the other's fiscal year, provide the other with a certification common at its agency of the amount and use of funds provided by the other Party which were utilized in the Project.

ARTICLE 4

Information and Intellectual Property

1. The publication, distribution, handling, protection and ownership of information and intellectual property, and rules and procedures related thereto, not covered by this Annex shall be determined by the Parties by unanimity.

2. Subject to restrictions applying to patents and copyrights, the Parties shall have the right to use and disseminate all information provided to or arising from the Project. It is intended that the results of this Project shall be published in the scientific literature.

3. A Party possessing information arising in the course of or under this Project ("arising information") regarding inventions on which patent protection is to be obtained shall notify the other Party and thereafter such information shall not be published or publicly disclosed until a patent application has been filed, provided, however, that this restriction on publication or disclosure shall not extend beyond six months from the date of notice to the other Party under this paragraph. Such information shall be appropriately marked to restrict publication or disclosure.

4. Reports containing arising information and information developed prior to or outside the Project necessary for and used in the Project shall be exchanged by the Parties and will cover the work performed by each Party under this Project.

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5. Inventions made or conceived in the course of or under this Project ("arising inventions") will be owned by MOEI in Israel and by DOE in the United States and third countries. Each Party, its Government and the nationals of its country designated by it, shall receive a royalty-free, non-exclusive license in the countries where the invention is owned by the other Party.

6. Copyrights of either Party shall be accorded treatment consistent with internationally recognized standards of protection. Any material which may be the subject of copyright developed under this Project may be copyrighted. A Party securing a copyright or rights thereto shall grant a royalty-free, non-exclusive license to the other Party to reproduce, publish, distribute, duplicate and use the copyrighted material.

7. Each Party shall, without prejudice to any right of inventors or authors under its national laws, take all necessary steps to provide the co-operation of its authors and inventors required to carry out the provisions of this Article 6. Each Party shall assume the responsibility to pay awards or compensation required to be paid to its employees according to the laws of its country.

8. It is not anticipated nor shall ^{it} be required that any exchange of proprietary information will occur under the activities specified under this Annex. Should a circumstance arise in which it is necessary or desirable to exchange proprietary information, then additional agreements will be developed.

ARTICLE 5

Other Agreements

The provisions of this Annex shall not affect the rights or duties of the Parties under other agreements or arrangements. This Annex also in no way precludes commercial firms or other legally constituted enterprises in each of the two countries from engaging in commercial dealings in accordance with the applicable laws of each country; nor does it preclude the Parties from engaging in activities with other governments or persons.

ARTICLE 6

Laws and Regulations

Activities under this Annex shall be in accordance with laws and regulations of the countries of the Parties. All questions related to this Annex shall be settled by the Parties by mutual agreement.

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ARTICLE 7

Appropriated Funds

It is understood that the ability of the Parties to carry out their obligations under this Annex is subject to the availability of appropriated funds.

ARTICLE 8

Term

1. This Annex shall enter into force upon signature, shall continue in force for two-year period, and may be amended or extended by mutual written agreement of the Parties.

2. In the event that, during the period of this Annex, the nature of either Party's energy programs should change substantially, either Party shall have the right to request revisions in the scope and/or terms of this Annex.

3. This Agreement may be terminated at any time at the discretion of either Party, upon six months advance notification in writing by the Party seeking to terminate the Annex. Any such termination shall be without prejudice to the rights which have accrued under this Annex to either Party up to the date of such termination.

Done at Jerusalem this 20th
day of June, 1985.

Al Tvepence
For the Department of Energy
of the United States of America

P. Chelkerson
For the Ministry of Energy
and Infrastructure of Israel